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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/650,584	08/28/2003	Diane Buske Ellis	02-270	7428
62753	7590	05/16/2008	EXAMINER	
VALERIE CALLOWAY CHIEF INTELLECTUAL PROPERTY COUNSEL POLYMER GROUP, INC. 9335 HARRIS CORNERS PARKWAY SUITE 300 CHARLOTTE, NC 28269			COLE, ELIZABETH M	
			ART UNIT	PAPER NUMBER
			1794	
			MAIL DATE	DELIVERY MODE
			05/16/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/650,584

Applicant(s)

ELLIS, DIANE BUSKE

Examiner

Elizabeth M. Cole

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 March 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,6-12 and 14-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,6-12 and 14-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/S508)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

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1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3/11/08 has been entered.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-3, 6, 8-12, 14-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oathout, U.S. Patent No. 5,459,912 in view of Palm, U.S. Patent No. 5,776,353. . Oathout discloses a clean room wipe made by a process of providing a first layer of polymeric staple fibers, a second layer of natural fibers and hydroentangling to form a composite fabric. The polymeric fibers can be thermoplastic fibers such as polyester, polypropylene or polyamide. See abstract and col. 2, line 50- col. 3, line 29. The natural fibers can be wood pulp or other plant fibers. See col. 4, lines 41-57. Since Oathout discloses the same fabric structure comprising the same types of fibers which are joined by hydroentangling, the fabric of Oathout would be drapable and conformable. Oathout differs from the claimed invention because Oathout does not disclose that the wipe should have a sodium ion content of less than 45 ppm and that it should be subjected to a process of washing with acetic acid, rinsing with water and

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drying. Palm discloses a method of removing contaminants from a fibrous material comprising the steps of washing with acetic acid, rinsing and drying. Palm teaches that this process removes soluble contaminants from the material. See col. 13, lines 53-64. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have subjected the clean room wipe of Oathout to the method of removing contaminants taught by Palm with the expectation that this washing, rinsing and drying process would remove soluble contaminants from the wipe of Oathout. It is noted that it is known in the art of clean room wipes that it is desirable to remove contaminants from the wipe. Once the cleaning process of Palm had been performed on the wipe of Oathout, the wipe of Oathout presumably would have the claimed sodium ion content, since Oathout teaches the claimed material and Palm teaches the claimed process. With regard to the particular apparatus employed to dewater the fabric, the person of ordinary skill in the art would have been able to select known means of dewater the fabric. Once the process of Palm was applied to the nonwoven material of Oathout, the resulting fabric would necessarily have the sodium ion content claimed, since Oathout teaches the same fabric and Palm teaches the same acid washing steps.

4. Claims 1-3, 6, 8-12, 14-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oathout, U.S. Patent No. 5,459,912 in view of Bahten, U.S. Patent NO. 6,182,323 and further in view of Palm et al, U.S. Patent No. 5,776,353. Oathout discloses a clean room wipe made by a process of providing a first layer of polymeric staple fibers, a second layer of natural fibers and hydroentangling to form a composite fabric. The polymeric fibers can be thermoplastic fibers such as polyester,

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polypropylene or polyamide. See abstract and col. 2, line 50- col. 3, line 29. The natural fibers can be wood pulp or other plant fibers. See col. 4, lines 41-57. Since Oathout discloses the same fabric structure comprising the same types of fibers which are joined by hydroentangling, the fabric of Oathout would be drapable and conformable. Oathout differs from the claimed invention because Oathout does not disclose that the wipe should have a sodium ion content of less than 45 ppm and that it should be subjected to a process of washing with acetic acid, rinsing with water and drying. . Bahten teaches that materials intended for use as clean room wipes or brushes, (col. 3, lines 10-27), can advantageously be subjected to acid washing, rinsing and drying, (col. 9, lines 3-20; col. 10, line 60 – col. 11, line 27; col. 12, lines 14-30), in order to remove impurities. Bahten teaches that materials which are thus treated can have a sodium ion content of less than 10 ppm. See Table 1B. Therefore, it would have been obvious to one of ordinary skill in the art to have subjected the clean room wipe of Oathout to the acid washing, rinsing and drying steps of Bahten, motivated by the expectation that these additional process steps would remove additional impurities from the clean room wipe of Oathout and arrive at a wipe having a sodium ion content of less than 10 ppm. With regard to the limitation that the process steps of washing with acetic acid, rinsing and drying are done in sequence and without intervening steps, although Bahten does show intervening steps in the process set forth at col. 9, lines 1-20, Bahten also teaches at col. 12, lines 33-45, that the particular process and steps set forth at col. 9 are exemplary and that the steps can be changed in sequence and that steps can be removed. Further, as evidenced by Palm, it was known in the art to perform acid

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washing, rinsing and drying alone as a method for removing contaminants from articles. See col. 13, lines 53-64. Therefore, it would have been obvious to have employed acid washing, rinsing and drying alone as a process for removing contaminants from the wipe of Oathout, in view of the teaching of Bahten and Palm. Neither Oathout nor Bahten teach employing acetic acid as the acid wash. Palm et al teaches at col. 13, that acetic acid was recognized in the art as equivalent to citric acid, (which is taught by Bahten) for the purpose of washing materials in order to remove residual impurities. See col. 13, lines 53-64. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have employed acetic acid in the process taught by Bahten, motivated by the teaching of Palm et al that acetic acid was an art recognized equivalent for this purpose.

5. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Oathout in view of Palm, or in view of Bahten and Palm as applied to claims above, and further in view of Kwok et al, U.S. Patent No. 5,093,190. Oathout, Bahten and Palm do not teach employing a vacuum during the washing process. Kwok teaches that employing a vacuum to dewater a nonwoven web for use as a clean room wipe reduces the amount of contaminants in the web. Therefore, it would have been obvious to have employed a vacuum in the acid washing processes of Palm and Bahten, with the expectation that this would increase the amount of contaminants removed.

6. Applicant's arguments filed 3/11/08 have been fully considered but they are not persuasive.

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7. Applicant argues that Oathout fails to recognize the problem of sodium ion content. However, both Bahten teaches the use of acid washing processes to remove contaminants from clean room materials. Palm teaches specifically using acetic acid washes to remove contaminants from materials. Additionally, Applicant's statement of the background of the invention states that "it is known that surfactants comprising high sodium concentrations may be problematic for wipes utilized in the electronic industry. For wiping applications in the electronics industry it is often desirable for the wipe to have a low sodium ion particle count". See page 2, lines 1-5 of the Background of the invention section.

8. Applicant argues that Palm is unrelated to the claimed invention because it is directed to a rigid, sintered, static composite filtration media that can be used for filtration application. However, Palm is related to the claimed invention because it teaches a method by which contaminants are removed from materials. This is pertinent to the claimed invention and also to Oathout, since providing materials which are free from contaminants is an important issue with regard to clean room materials such as clean room wipes.

9. Applicant argues that the fact that Palm teaches that acid washing is useful for removing contaminants from static materials is not relevant to nonwoven fabrics as claimed. However, as set forth above, the prior art recognizes the problem of contaminants in clean room applications. Oathout is drawn to a clean room wipe. Therefore, the teachings of Palm as to methods by which contaminants can be removed from materials is pertinent to the invention of Oathout. Further, the combination of

references does not require that there be an absolute certainty of success, but rather that there be a reasonable expectation of success.

10. Applicant argues that Palm does not disclose fibers or fabrics. However, Palm discloses fiberglass. Fiberglass is by definition a fibrous material and since Palm does not disclose woven fabrics the person of ordinary skill in this art would recognize that the fiberglass structures of Palm refer to nonwoven structures.

11. Applicant argues that one of ordinary skill in the art would not use the fiberglass materials of Palm as a wipe since the fiberglass fibers are abrasive and would damage structure wiped with them. However, the rejection does not state that the references would have suggested using fiberglass structures to wipe anything, but rather states that the references recognize that acetic acid washes were known in the art as a technique for removing contaminants from fibrous materials.

12. Applicant argues that there is no expectation of success of using the acid wash of Palm which is done on rigid structures to remove contaminants from the nonwoven of Oathout. However, there is nothing on the record that would establish that the process of removing contaminants is affected or constrained by whether the relative flexibility or rigidity of the material from which the contaminants are removed. The material of Palm is porous and comprises fiberglass fibers. Therefore, there would be a reasonable expectation of success in removing contaminants from the material of Oathout by following the process taught by Palm.

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13. Applicant argues that the citation to *ex parte* Obiaya is neither controlling nor instructive because a *prima facie* case is not set forth for the combination. However, for the reasons stated above, a *prima facie* case has been set forth.

14. Applicant argues that there is not basis for asserting that it was known or desirable to remove sodium ions that are already present in a clean room fabric, which is distinct from not adding additional sodium ions in additives. However, Applicant has stated in the background of the invention section that "It is desirable for the wipe to have a low sodium ion particle count". This admits that it was known in the art to have a low sodium ion particle count and would encompass both those sodium ions which are already present and those which might be undesirably added.

15. Applicant argues that although Bahten teaches "wipes" it does not teach nonwoven wipes. However, Bahten teaches wipes for use in a clean room and teaches acid washing them in order to remove contaminants. Therefore, the teachings of Bahten are pertinent to the invention of Oathout. This is true whether or not the wipes are in foam or fibrous form. Bahten recognizes the problem of contaminants in clean room wipes and teaches a method by which they can be removed. Further, while Applicant argues that the person of ordinary skill in the art would recognize that Bahten only means foam sponges when it refers to wipes, it is noted that it is well known and conventional in the art to form wipes from fibrous materials, not just foams. Either way, however, as noted above, Bahten clearly teaches a method of removing contaminants from clean room materials by means of acid washing.

16. Applicant also asserts that "clearly Bahten is describing the treatment of relatively rigid or self-supporting articles, and not fabric type materials." However, initially it is noted that fabrics are self supporting. Further, the fact that Bahten places the wipes in a commercial dish washing machine does not mean that the wipes could not be fibrous. Finally, however as noted above, even if the wipes of Bahten are sponges, the teachings of Bahten are applicable to all clean room wipes.

17. Applicant argues that the fact that Bahten allows for changes in the sequence of steps of removal of steps does not address the fact that Bahten fails to provide an enabling disclosure for any different process that might omit the solvent wash, caustic wash, and/or chelation wash steps and/or change the sequence of steps described such that one of ordinary skill in the art would have recognized that a sodium ion count of less than 45 ppm could be achieved in a nonwoven fabric. However, Bahten does teach omitting and/or rearranging the steps. Further, Palm teaches that acid washing, rinsing and drying are known methods of removing contaminants from materials. Therefore, the person of ordinary skill in the art would have been motivated to employ only the acid washing, rinsing and drying steps, both in view of the teaching of Bahten that not all of the steps are required and in view of the teaching of Palm that acid washing, rinsing and drying alone were known to be useful for the purpose of removing contaminants from wipes. In response to applicant's argument that the person of ordinary skill in the art would have not used the particular process steps of Palm in order to achieve a wipe having a sodium ion count of less than 45 ppm, the fact that applicant has recognized another advantage which would flow naturally from following

the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985).

18. Further, it is noted that Bahten also teaches that the order of the steps can be changed and that some steps can be omitted, and that the particular sequence shown in Bahten is merely exemplary. Therefore, the person of ordinary skill in the art would have been able to select the steps from the process of Bahten through the process of routine experimentation in order to arrive at a product having the desired low level of contaminants, since Bahten already clearly states that the process can be changed and tailored for different products.

19. Applicant argues that Wallis is not relevant to the instant invention and appears to state that the Wallis reference should be include in the statement of the rejection. However, it is again noted that Wallis was never used or relied on in the rejection. Applicant previously cited several references which in Applicant's opinion stated that acetic acid could not and would not ever be used in combination with cellulosic fibers. Wallis was cited in response to show that acetic acid was indeed used in combination with cellulosic fibers and did not destroy the fibers. Therefore, it is not clear why Applicant is requesting that Wallis be included in the statement of the rejection. To clarify again, Wallis is not relied on to reject the claims.

20. With regard to the rejections in view of Kwok, Applicant argues that there is no reason to expect that the dewatering apparatus of Kwok would be able to be used on rigid materials like those of Bahten and Palm. However, initially, it is noted that it has

nowhere been established that Bahten is limited to rigid materials. However, even if it was, the rejection relies on Kwok for the means by which the nonwoven of Oathout could be dewatered, not the materials of Bahten or Palm.

21. The Declaration under 37 CFR 1.132 filed 3/11/08 is insufficient to overcome the rejection of claims based upon Oathout in view of Palm or Oathout in view of Palm and Bahten as set forth in the last Office action because:

22. The Declaration states that solutions to problems in the nonwoven industry are not normally sought out in the sintered filtration media area and that the structures are not comparable physically, chemically or structurally. Further, the Declaration states that the nonwoven fabrics are absorbent and drapable, while the palm material is hard and static. However, the material of Palm is porous in that it is used for filtration. Additionally, the Palm reference is pertinent to the invention of Oathout since both are concerned with providing a material which is free of contaminants.

23. The Declaration states that Oathout did not understand or at least did not teach that there was a problem with sodium ion content with nonwoven fabric wipers. However, it is noted that the instant application acknowledges in the background of the art section that it was known in the art of clean room wipes that sodium ion content was a recognized problem.

24. The Declaration states that Bahten only refers to polymeric devices that are foam and not to nonwoven fabrics and that such materials are relatively rigid. However, even if the materials are relatively rigid, there does not seem to be anything that would show that a relatively rigid material must be cleaned or have contaminants removed in a way

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which is different than a relatively flexible and drapable material. There is nothing showing that such teachings are not pertinent to any type of wipe.

25. Therefore, when considering the totality of the record, the prior art references, the arguments and the Declaration carefully, the rejections are maintained.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth M. Cole whose telephone number is (571) 272-1475. The examiner may be reached between 6:30 AM and 6:00 PM Monday through Wednesday, and 6:30 AM and 2 PM on Thursday.

The examiner's supervisor Rena Dye may be reached at (571) 272-3186.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

The fax number for all official faxes is (571) 273-8300.

/Elizabeth M. Cole/
Primary Examiner, Art Unit 1794

e.m.c